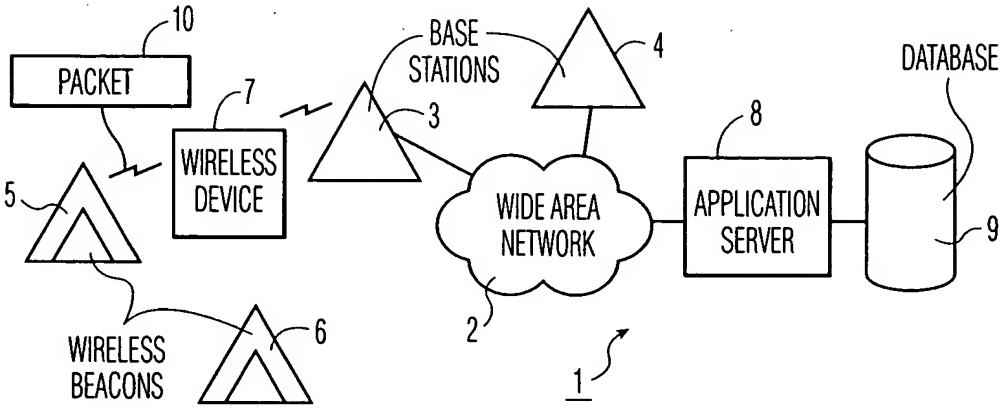

FIG. 1

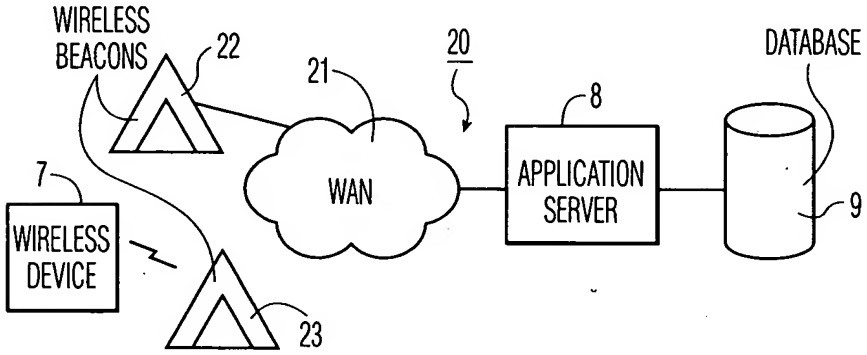

FIG. 2

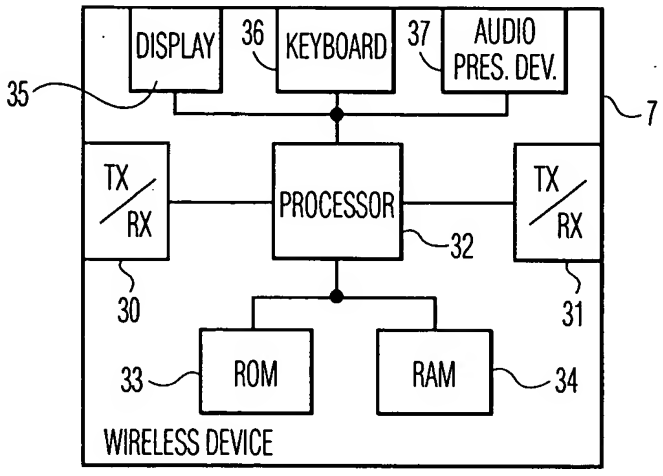

FIG. 3

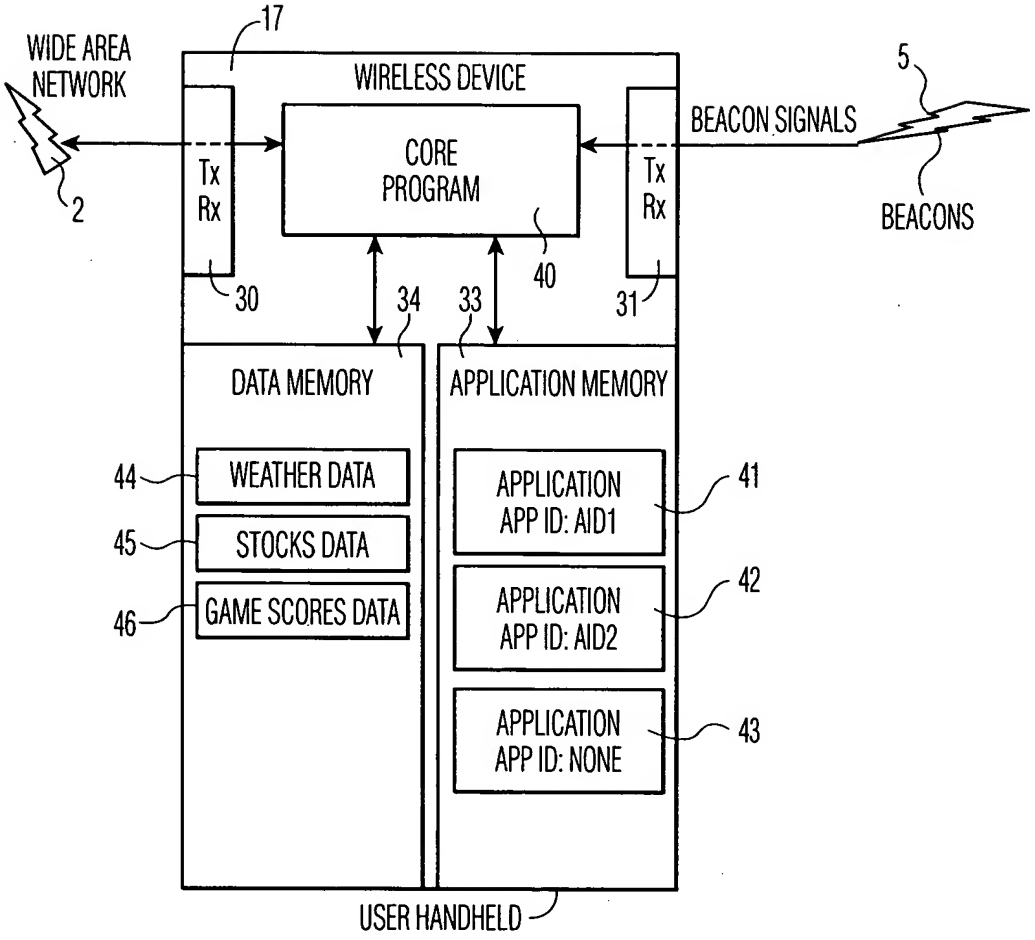
WIDE AREA NETWORK
17
WIRELESS DEVICE
5
BEACON SIGNALS
Tx Rx
CORE PROGRAM
Tx Rx
2
BEACONS
30
34
33
40
31
DATA MEMORY
APPLICATION MEMORY
44
WEATHER DATA
45
STOCKS DATA
46
GAME SCORES DATA
APPLICATION APP ID: AID1
41
APPLICATION APP ID: AID2
42
APPLICATION APP ID: NONE
43
USER HANDHELD

FIG. 4

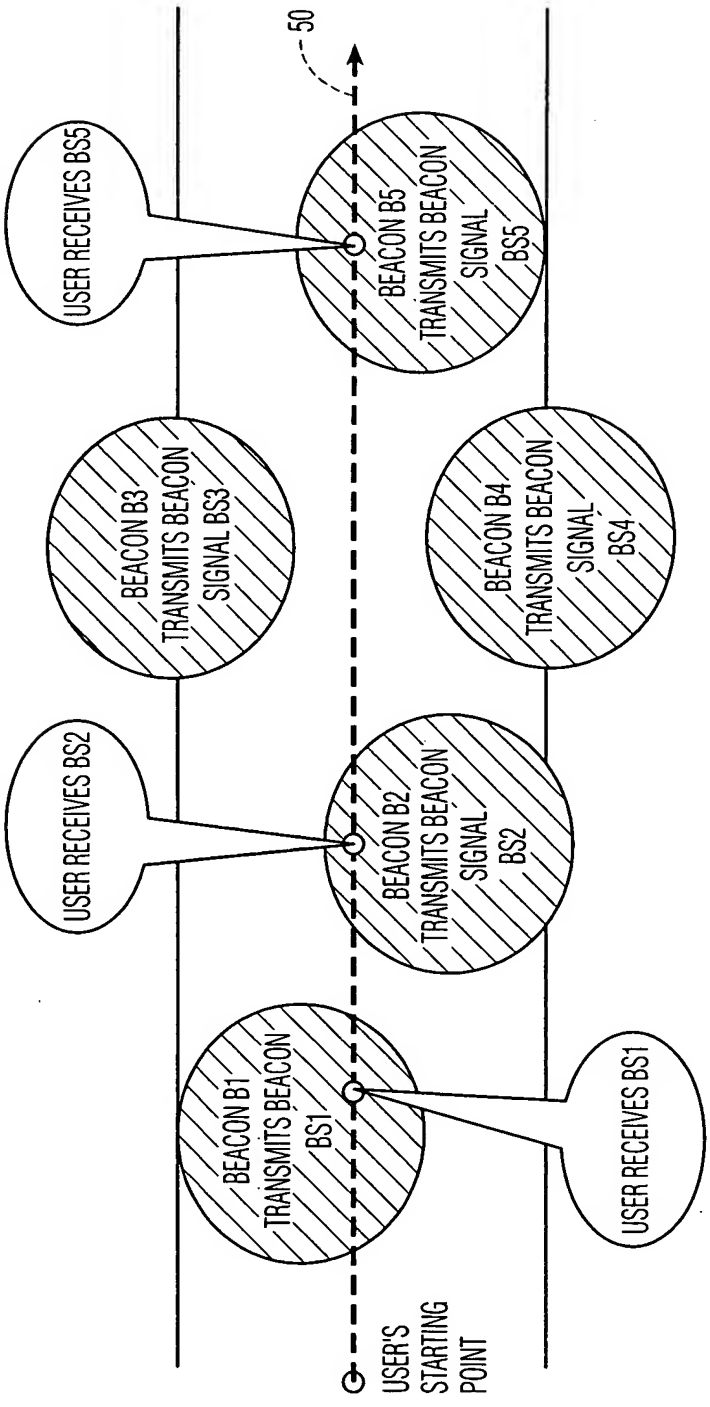
50
USER RECEIVES BS5
BEACON B5 TRANSMITS BEACON SIGNAL BS5
BEACON B3 TRANSMITS BEACON SIGNAL BS3
BEACON B4 TRANSMITS BEACON SIGNAL BS4
USER RECEIVES BS2
BEACON B2 TRANSMITS BEACON SIGNAL BS2
BEACON B1 TRANSMITS BEACON BS1
USER RECEIVES BS1
USER'S STARTING POINT

FIG. 5

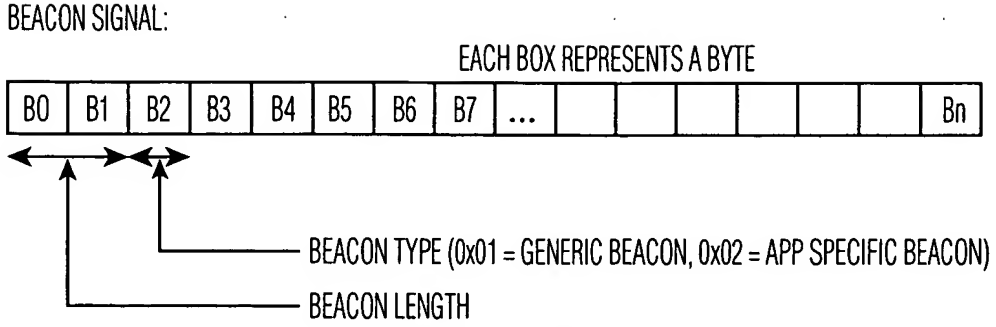

FIG. 6A

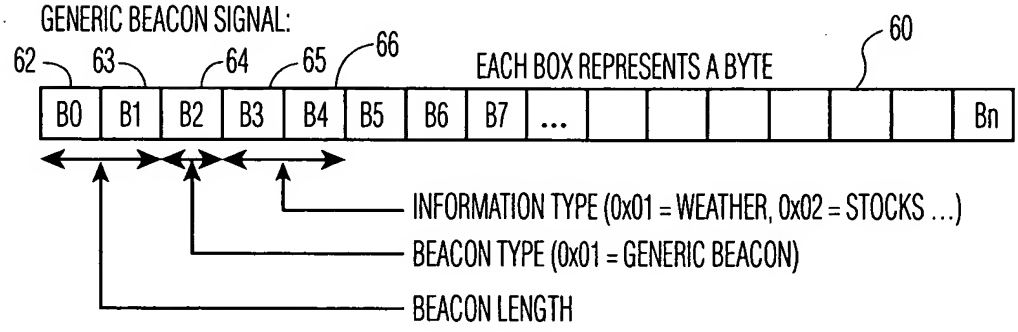

FIG. 6B

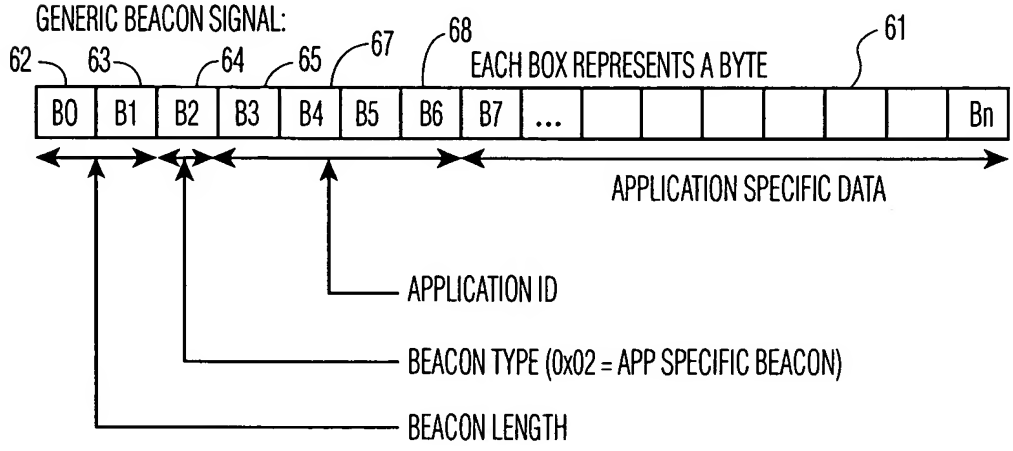

FIG. 6C

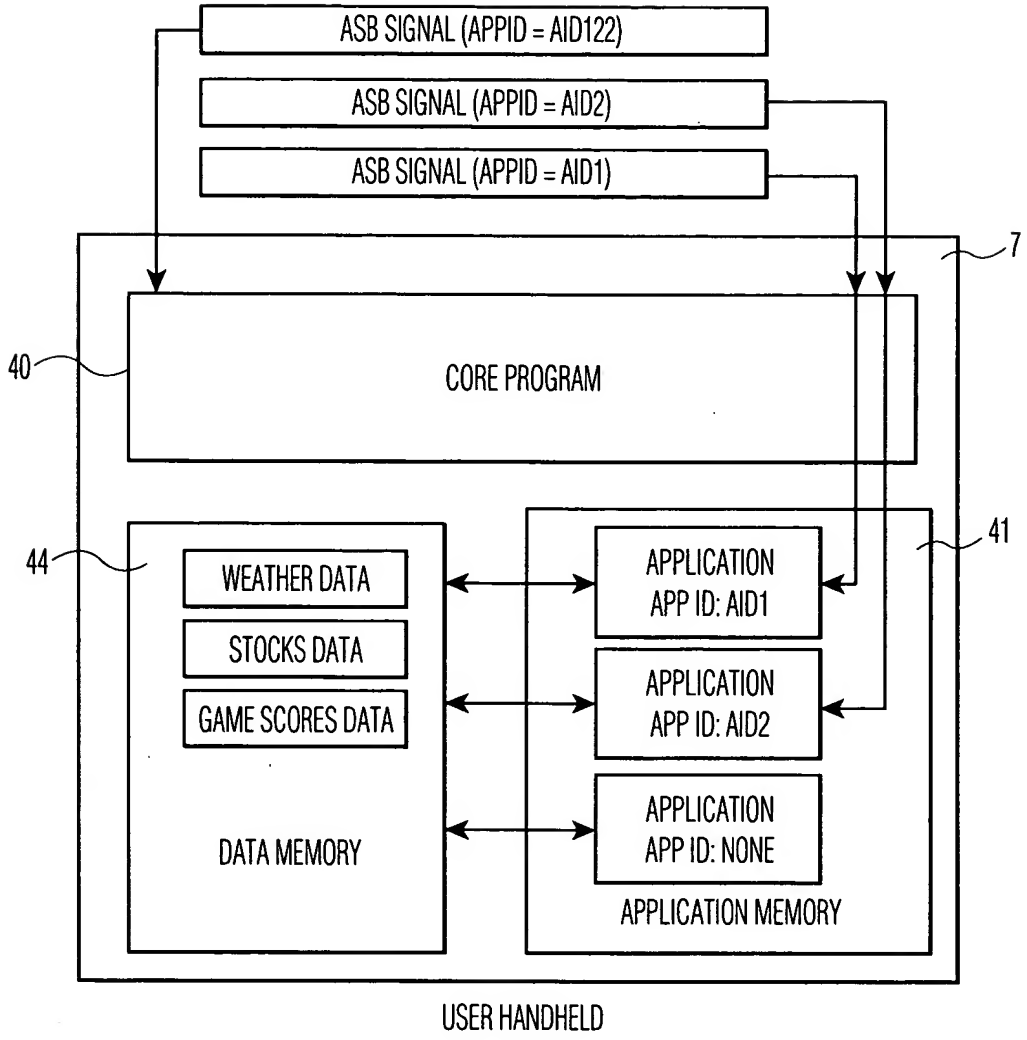
ASB SIGNAL (APPID = AID122)
ASB SIGNAL (APPID = AID2)
ASB SIGNAL (APPID = AID1)
7
40
CORE PROGRAM
44
41
WEATHER DATA
STOCKS DATA
GAME SCORES DATA
DATA MEMORY
APPLICATION
APP ID: AID1
APPLICATION
APP ID: AID2
APPLICATION
APP ID: NONE
APPLICATION MEMORY
USER HANDHELD

FIG. 7

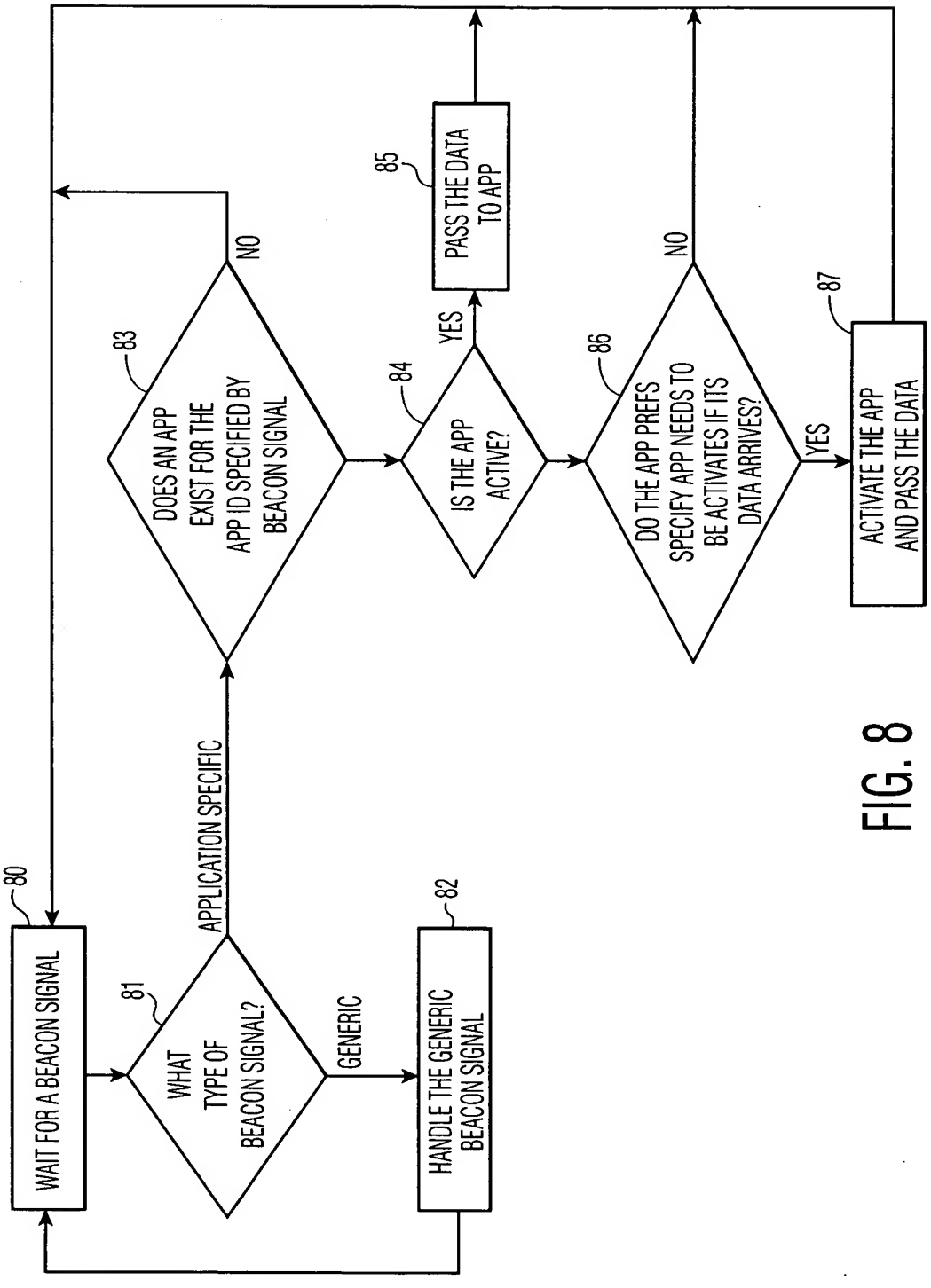
80
WAIT FOR A BEACON SIGNAL
81
WHAT TYPE OF BEACON SIGNAL?
APPLICATION SPECIFIC
GENERIC
82
HANDLE THE GENERIC BEACON SIGNAL
83
DOES AN APP EXIST FOR THE APP ID SPECIFIED BY BEACON SIGNAL
NO
84
IS THE APP ACTIVE?
YES
85
PASS THE DATA TO APP
86
DO THE APP PREFS SPECIFY APP NEEDS TO BE ACTIVATES IF ITS DATA ARRIVES?
NO
YES
87
ACTIVATE THE APP AND PASS THE DATA

FIG. 8

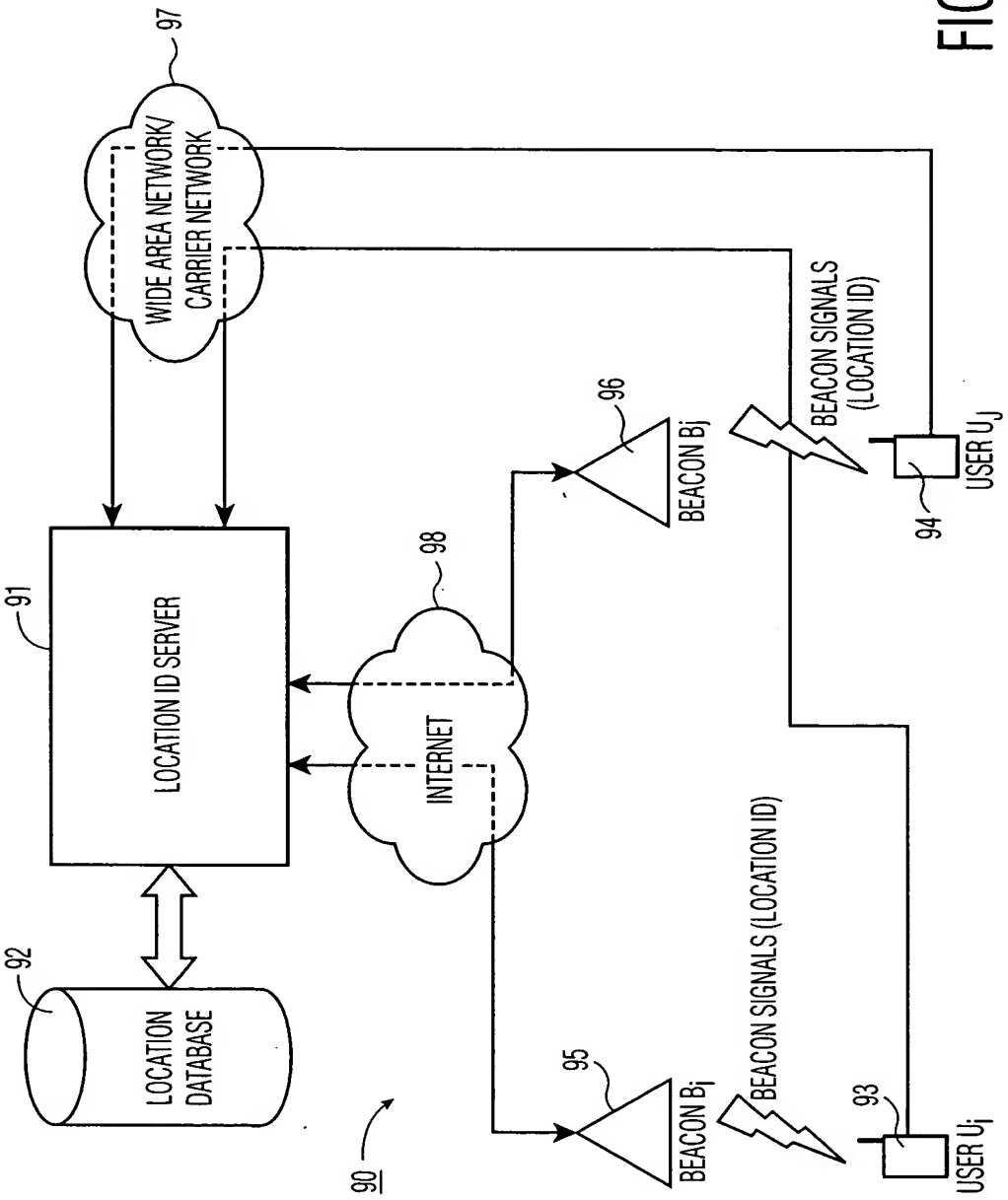
97
WIDE AREA NETWORK/
CARRIER NETWORK
91
LOCATION ID SERVER
92
LOCATION
DATABASE
98
INTERNET
96
BEACON Bj
BEACON SIGNALS
(LOCATION ID)
94
USER UJ
95
BEACON Bi
BEACON SIGNALS (LOCATION ID)
93
USER Ui
90

FIG. 9

100

	S.NO.	FIELD NAME	TYPE	EMPTY OK
101	1	RECORD NUMBER	NUMBER	NO
102	2	USER ID	NUMBER	NO
103	3	LOCATION ID	NUMBER	NO
104	4	LAST ENCOUNTERED	DATE	NO

FIG. 10

110 112 113 114

LOCATION ID	DESCRIPTION	LATITUDE	LONGITUDE
A000 0140	...	...	...
A000 0141	CACHE MOUNTAIN CABIN	N 65° 25.6'	W 147° 14.6'
A000 0142	CARIBOU BLUFF CABIN	N 65° 28.3'	W 147° 34.3'
111 A000 0143	COLORADO CREEK CABIN	N 65° 29.6'	W 147° 54.0'
A000 0144	CROWBERRY CABIN	N 65° 19.3'	W 147° 27.6'
A000 0145	LEE'S CABIN	N 65° 12.8'	W 147° 53.3'
A000 0146	MOOSE CREEK CABIN	N 65° 13.7'	W 147° 37.8'
A000 0147	RICHARD'S CABIN	N 65° 25.6'	W 146° 58.6'
A000 0148	WICKERSHAM CREEK SHELTER	N 65° 16.7'	W 147° 50.8'
A000 0149	WINDY GAP CABIN	N 65° 33.4'	W 147° 27.7'
A000 014A	...	...	...

FIG. 11

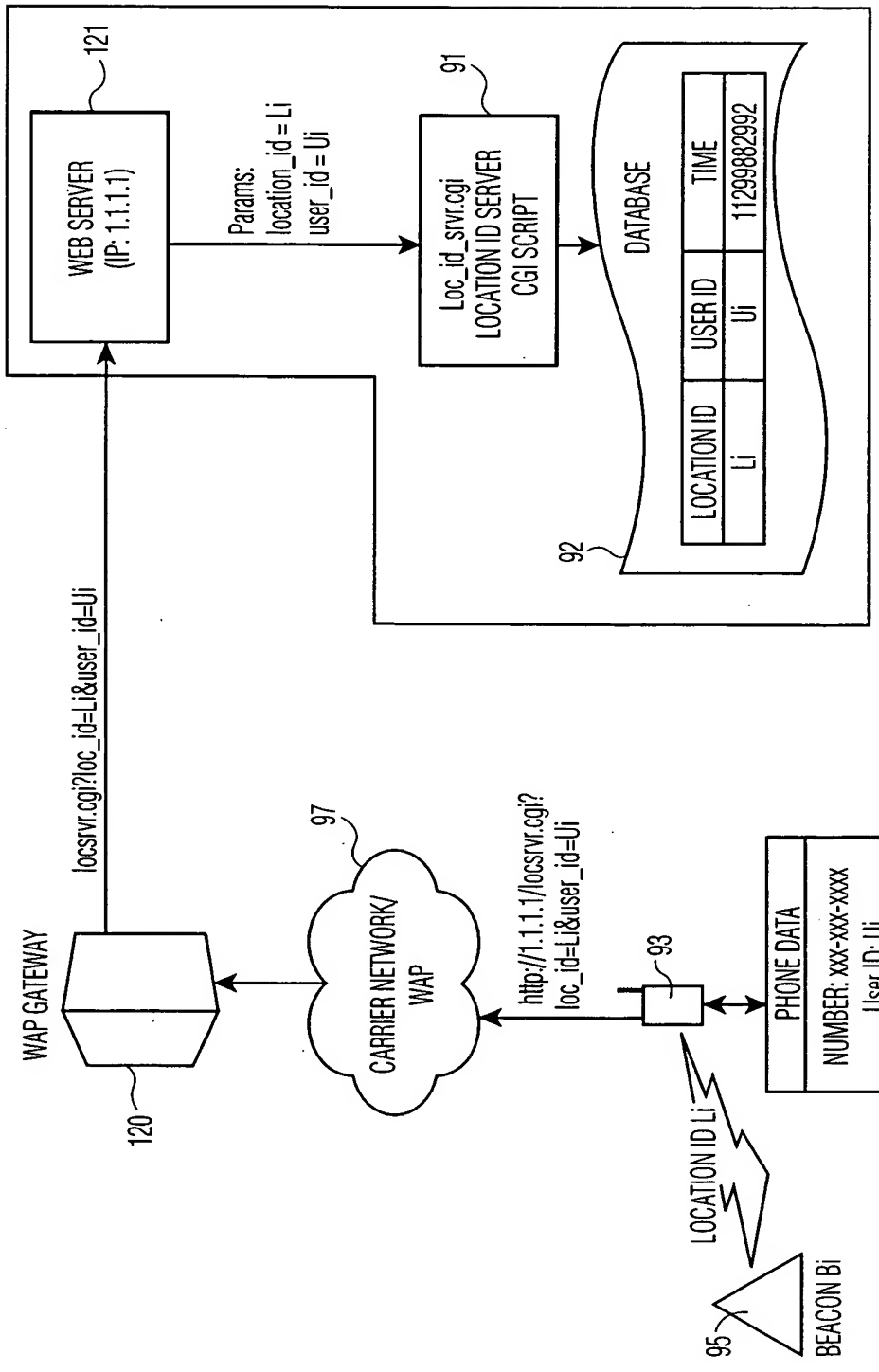
121
WEB SERVER
(IP: 1.1.1.1)
Params:
location_id = Li
user_id = Ui
91
Loc_id_srvr.cgi
LOCATION ID SERVER
CGI SCRIPT
DATABASE
LOCATION ID
USER ID
TIME
Li
Ui
11299882992
92
locsrvr.cgi?loc_id=Li&user_id=Ui
97
WAP GATEWAY
CARRIER NETWORK/
WAP
http://1.1.1.1/locsrvr.cgi?
loc_id=Li&user_id=Ui
93
PHONE DATA
NUMBER: xxx-xxx-xxxx
User ID: Ui
120
LOCATION ID Li
95
BEACON Bi

FIG. 12

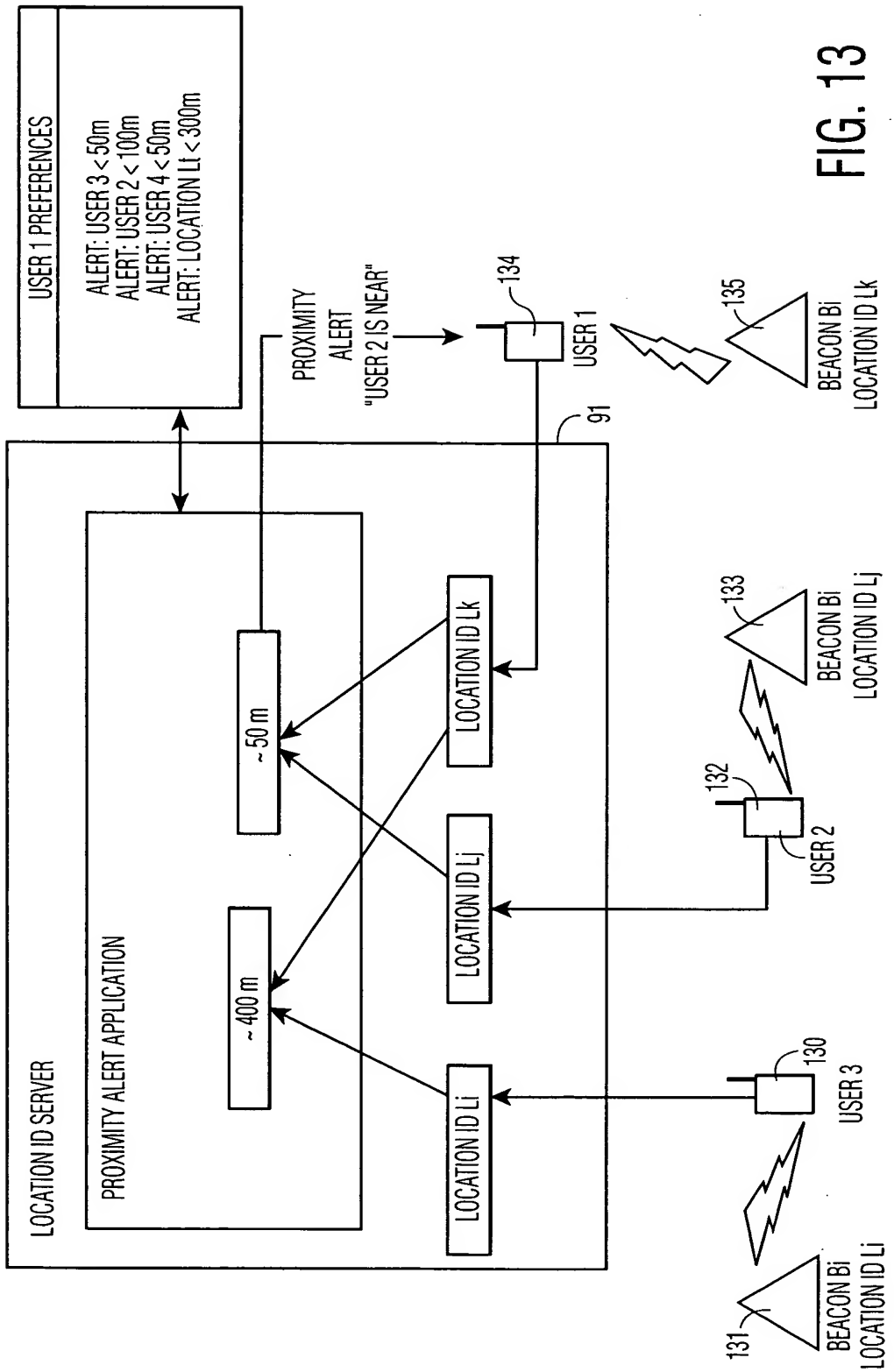
USER 1 PREFERENCES
ALERT: USER 3 < 50m
ALERT: USER 2 < 100m
ALERT: USER 4 < 50m
ALERT: LOCATION Lt < 300m
LOCATION ID SERVER
PROXIMITY ALERT APPLICATION
~ 50 m
~ 400 m
LOCATION ID Lk
LOCATION ID Lj
LOCATION ID Li
PROXIMITY ALERT "USER 2 IS NEAR"
91
134
USER 1
135
BEACON Bi LOCATION ID Lk
133
BEACON Bi LOCATION ID Lj
132
USER 2
130
USER 3
131
BEACON Bi LOCATION ID Li

FIG. 13

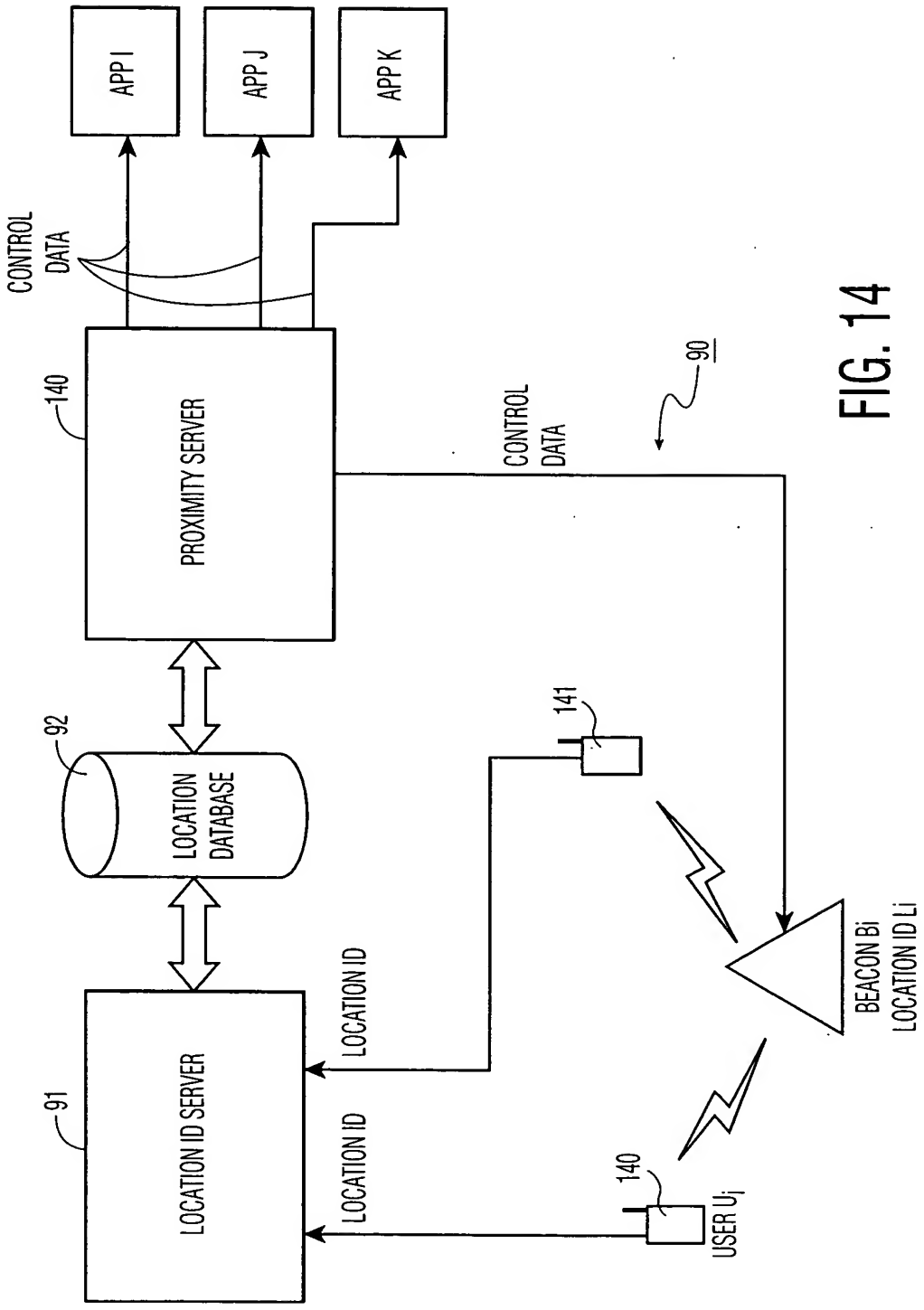
APP I
APP J
APP K
CONTROL DATA
140
PROXIMITY SERVER
CONTROL DATA
90
92
LOCATION DATABASE
141
BEACON Bi
LOCATION ID Li
LOCATION ID
91
LOCATION ID SERVER
LOCATION ID
140
USER Uj

FIG. 14

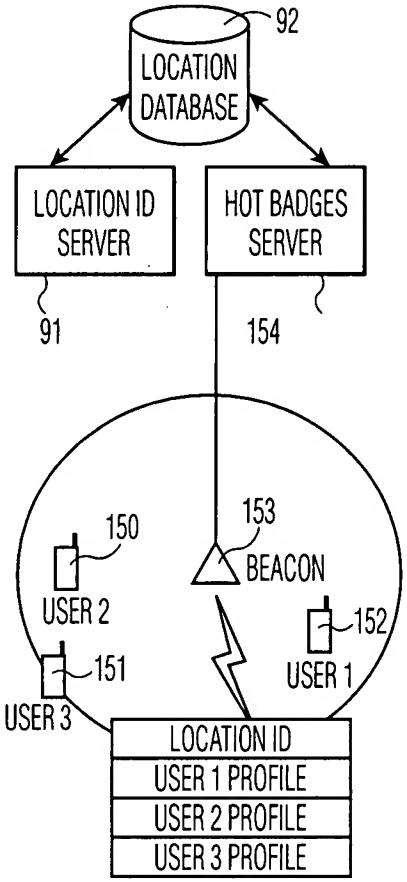

FIG. 15A

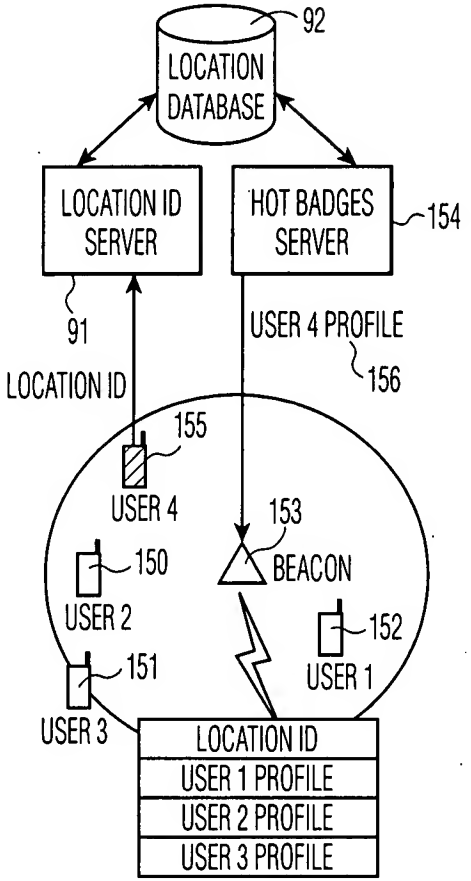

FIG. 15B

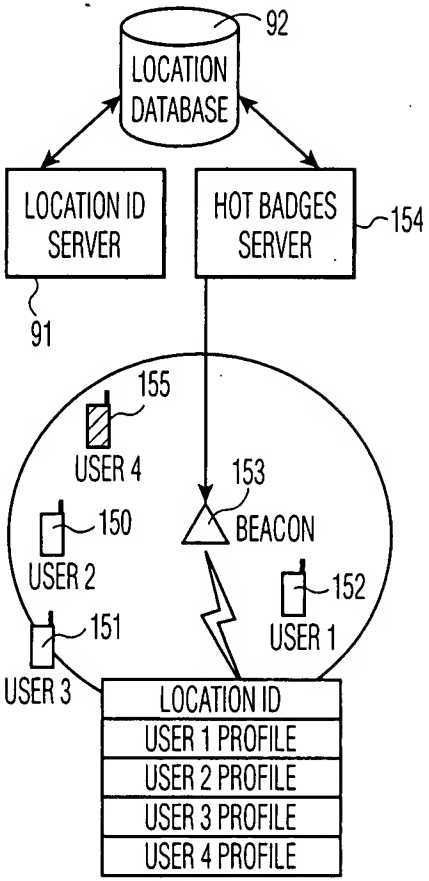

FIG. 15C

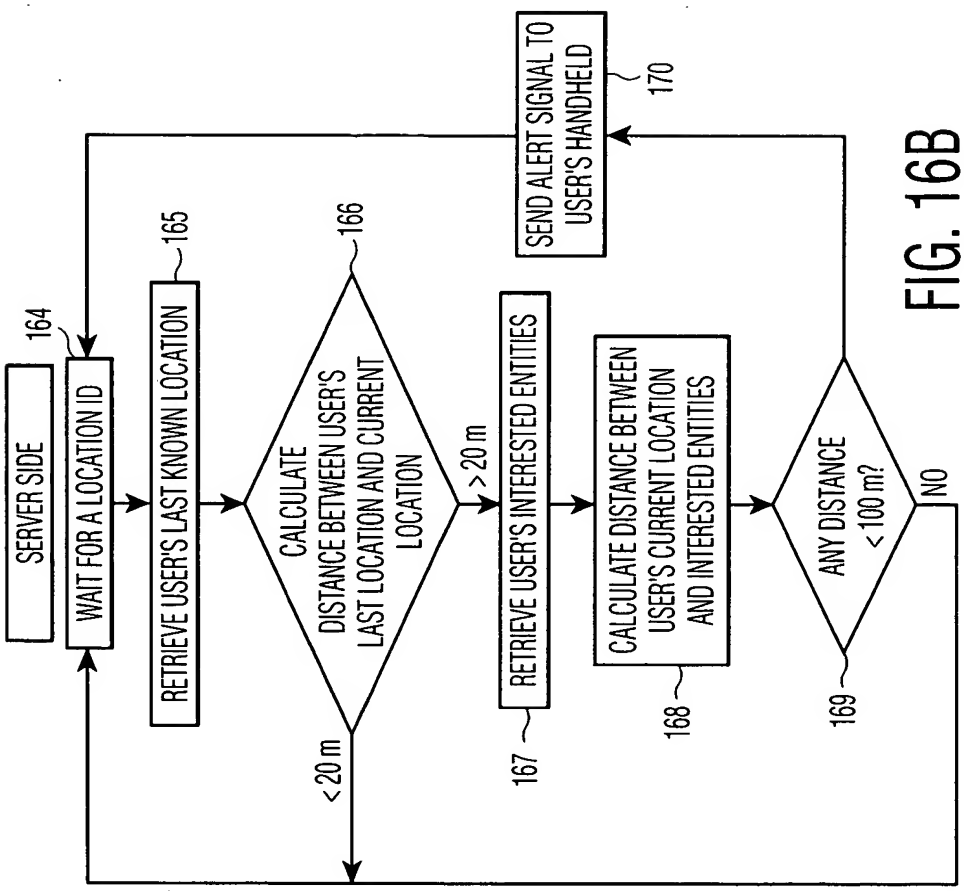

FIG. 16B

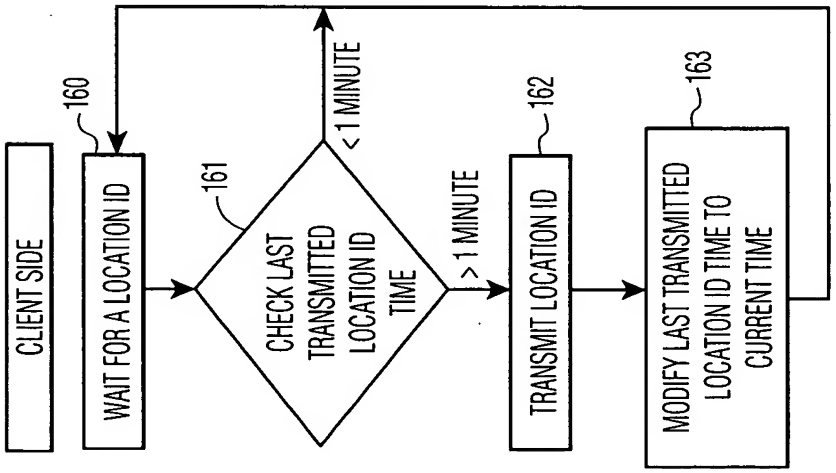

FIG. 16A